REMARKS

The application is believed to be in condition for allowance for the reasons set forth below.

Claim status

Claims 26-46 are pending in the application.

35 USC 102 rejection

Claims 26-40 and 42-45 were rejected under 35 USC 102(e) as being anticipated by ARIVOLI et al. US 7,170,849. That rejection is respectfully traversed.

Claim 26 recites that an interleaver generates and outputs N pieces of data from Q (N > Q) data symbols inputted. Thus, the N output pieces of data are greater than the Q input pieces of data.

The Official Action offers column 5, lines 27-41, column 6, lines 1-7 and table 1 of ARIVOLI in support of the rejection.

However, each of these sections, and in fact, the entirety of ARIVOLI is directed to inputting the same amount of data that is output.

Indeed, this is consistent with the characterization of ARIVOLI set forth in the Official Action. That is, the Official

Action states that input Ncbps is 48 bits and the output is 3 groups per row with 16 rows, 3 times 16 is 48 bits.

This is further evidenced by Tables 2 and 3 of ARIVOLI. Table 2 shows 288 bits that are input to the interleaver (Interleaver Array Write Order) or that are output by the de-interleaver (De-interleaver Array Read Order). Table 3 also shows 288 bits. But in this case, the 288 bits are output by the interleaver (Interleaver Array Read Order) or are input to the de-interleaver (De-interleaver Array Write Order).

Thus, the amount of data input and output from the interleaver (or de-interleaver) is the same. The only difference is the ordering of the data (Table 2 has data bits 0-15 in a single column, while Table 3 has data bits in a single row, across 18 columns). See also column 6, lines 23-29.

Accordingly, as set forth on the top of page 3 of the Official Action, the interleaver rearranges the 288 bits. However, in each case 288 bits are both input and output. The same applies for the different schemes BPSK, 8PSK, etc. with the same number of input bits and outputs bits, i.e. 48 for BPSK and 144 for 8PSK (see Tables 4-7).

However, ARIVOLI does not suggest that an interleaver generates and outputs N pieces of data from Q (N > Q) data symbols inputted as recited in claim 26. Therefore, ARIVOLI does not anticipate claim 26.

Independent claim 36 also recites that an interleaver generates and outputs N pieces of data from Q (N > Q) data symbols inputted. The analysis above regarding claim 26 as to this feature also applies to claim 36.

Independent method claim 45 recites that an interleave-processing step generates and outputs N pieces of data from Q (N > Q) data symbols inputted. The analysis above regarding claim 26 as to this feature also applies to claim 45.

The dependent claims are believed to be patentable at least for depending from an allowable independent claim.

In addition, at least claims 27 and 37 include features that are not disclosed by ARIVOLI.

Claims 27 and 37 recite that the transmitter apparatus comprises an FFT processing part for converting the data symbols to the frequency domain data.

The Official Action offers element 150 of ARIVOLI as an FFT processing part.

However, as seen in Figure 1 of ARIVOLI, the transmitter 102 only includes an IFFT 110.

The FFT processing part 150 of ARIVOLI is in the receiver 103 of ARIVOLI.

ARIVOLI does not teach that a transmitter apparatus includes both an IFFT processing part and an FFT processing part.

Accordingly, claims 27 and 37 are believed to be

patentable independently of the patentability of claims 26 and 36.

35 USC 103 rejections

Claim 41 was rejected under 35 USC 103(a) as being unpatentable over ARIVOLI in view of TSAI et al. US 7,330,513. That rejection is respectfully traversed.

TSAI is only cited with respect to features of dependent claim 41. TSAI does not overcome the shortcomings of ARIVOLI set forth above with respect to claim 36. Since claim 41 depends from claim 36 and further defines the invention, claim 41 is believed to be patentable at least for depending from an allowable independent claim.

Claim 46 was rejected under 35 USC 103(a) as being unpatentable over ARIVOLI. That rejection is respectfully traversed.

Independent method claim 46 recites that an interleave-processing step generates and outputs N pieces of data from Q (N > Q) data symbols inputted. The analysis above regarding claim 26 as to this feature also applies to claim 46.

Moreover, as recognized in the Official Action ARIVOLI does not teach that a de-interleave-processing step generates and outputs Q pieces of data from N (Q < N) data symbols inputted.

Based on the analysis above, the de-interleave process of ARIVOLI is the inverse of the interleave process and always has the same amount of data output as input. Thus, it would not have been obvious to modify ARIVOLI to meet claim 46 as to this feature.

In addition, claim 46 recites that a transmission step comprises an FFT processing step. As set forth above with respect to claims 27 and 37, the FFT processing in ARIVOLI is with respect to a receiver 103 (receiving step). ARIVOLI does not suggest that a transmission step comprises an FFT processing step.

Accordingly, it would not have been obvious to modify ARIVOLI to meet claim 46.

In view of the foregoing remarks, it is believed that the present application is in condition for allowance. Reconsideration and allowance are respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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